REMARKS

I. Status Of The Claims

Claims 1-33 were originally pending in the present application. Claims 30-33 were withdrawn and claims 1-29 stand rejected. Applicants have amended claims 1, 9, 13, 15, 17, 18, 20, 25, and 29, claims 12, 14, 23, 24, 26, 27, 28, and 30 – 33 have been canceled without prejudice or disclaimer, and added new claims 34 - 44. Claims 1 – 11, 13, 15 – 22, 25, 29, and 34 - 44 are currently pending in the present application. No new matter has been added.

II. Rejections Under 35 USC § 103

Claims 1, 4-6, 8, 18, 23, and 27-28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Tatar (U.S. Pat. No. 5,910,142). Claims 2 and 3 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Tatar in view of Doubler et al. (U.S. Pub. No. 2005/0070899). Claims 7 and 9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Tatar in view of Sgier et al. (U.S. Pub. No. 2005/0171538). Claims 10-18, 17-22 and 25-26 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Tatar in view of Ferree (U.S. Pat. No. 6,802,844). Claims 24 is rejected under 35 U.S.C. § 103(a) as being as being unpatentable over Tatar in view of Griss (U.S. Pat. No. 5,910,142). Claim 29 is rejected under 35 U.S.C. § 103(a) as being as being unpatentable over the combination of Tatar, Sgier et al. and Griss.

Tatar discloses a pedicle screw assembly that, at least in its disassembled state, has a body element 120 that includes threads and is able to rotate relative to the threaded insertion portion 100. Tatar also discloses that the threaded insertion portion 100 and the body 120 are assembled by advancing the threaded insertion portion 100 through the axial bore until the head of the threaded insertion portion 100 seats into the body 120.

Ferree discloses a spinal alignment apparatus with rods 80 having ball-shaped ends which may be spherical, or semi-spherical. Link members 80 have male or female half spheres allowing either caps 84 or additional rods 80 to be attached (see Fig. 3G). The spheres are split with the split face being non-normal to the rod 80 axis (see Figs. 3G and 3H). End 82 has a male post 83, which is received by end cap 84, having female aperture 85. As shown in Fig. 3H, because of the non-normal split face, the rods 80 may be turned at the joint region prior to

installation, permitting the rods to extend from the connector at various angles prior to tightening.

Claims 1, 9, 17, and 25

In contrast to Ferree and the other cited prior art, independent claim 1 recites a pedicle screw assembly wherein the second end of a rod is provided with a conical surface facing an outboard side of the second end. Mating surfaces of end 82 and end cap 84 are planar and flat and absent a conical surface as claimed. Having a conical surface is not a matter of mere design choice, but is necessary to establish a range of motion of a joint created at the interface between first and second rods. For at least this reason, claim 1 and additional independent claims 9, 17, and 25, each of which contain a similar recitation, should now be allowable over Ferree, or in combination with any of the other prior art of record.

Dependent claims 2-8, 10-16, 18, and 19 each depend from one of the above independent claims, and therefore should also be allowable based at least on the foregoing reasons.

Claim 20

Claim 20 has been amended to include the recitation that when the centrally located protrusion has at least partially entered the recess, a joint is established in which a range of motion between the first rod and second rod is achieved without rotation of either rod about a rod axis.

In contrast, Ferree discloses a rod 80 with end 82 having a male post 83 to receive an end cap 84 of an adjacent rod. The end cap 84 has a female aperture 85 to accommodate the male post 83. Mating surfaces (see Figs. 3G and 3H) of end 82 and end cap 84 are planar and flat such that when assembled the surfaces are in complete contact and the adjacent rods must be turned (i.e. rotated along the rod axis) at the joint prior to installation to achieve various angles prior to tightening (see Fig. 3H and column 8, lines 35 – 40).

The conical surface claimed by Applicants is not trivial. When the protrusion has at least partially entered the recess, the edges of the conical surface establish a range of motion for the first and second rods, and this motion is possible with no rod rotation about a rod axis. For at

least this reason, claim 20 is allowable over Tatar in view of Ferree, or in combination with any of the other prior art of record.

III. New Claims 34 - 44

New dependent claims 34 – 44 further define the scope of the invention, as described in the specification and drawings. Accordingly, claims 34 - 44 are submitted as patentable for at least the reasons as the independent claims above, and on their own merit.

Conclusion

Applicants respectfully request favorable action in connection with this application.

The Examiner is invited and urged to contact the undersigned to discuss any matter concerning this application.

No fee is believed to be due for this submission. Should a fee be required, the Commissioner is authorized to charge any such fee to Womble Carlyle's Deposit Account No. 09-5028.

Respectfully Submitted,

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